



# **The Truth About Supply Chain Control Towers**

## **Cutting Through the Hype**

Few concepts over the past few years have generated as much interest within the supply chain community as the “control tower”. It seems that nearly every trade magazine and analyst firm has written about supply chain control towers. Software vendors have spent millions of marketing dollars promoting the idea that control towers would benefit today’s manufacturers and retailers. Are they correct?

This white paper investigates control tower technology and is organized in five parts as follows: first, it surveys the existing control tower literature and provides a working definition of “control tower”; second, it explores why the concept has attracted so much interest from the market; third, it finds that control towers are largely a response to growing supply chain complexity; fourth, the paper reveals the five fatal flaws that most control tower solutions suffer from; fifth, it provides an alternative to the control tower approach—the multi-enterprise network platform; finally, it concludes with a look ahead.

## WHAT EXACTLY IS A SUPPLY CHAIN CONTROL TOWER?

Google “supply chain control tower” and you will find over 2.1 million results.<sup>1</sup> Every outlet has its own definition, but the global consulting firm Capgemini provides the broadest definition that all sources would agree on:

A supply chain control tower is a central hub with the required technology, organization, and processes to capture and use supply chain data to provide enhanced visibility for short and long term decision making that is aligned with strategic objectives.<sup>2</sup>

The control tower is usually portrayed as a high-tech room filled with flashing screens, similar to NASA’s Mission Control.

Teams of planners sit in the room and are provided with an end-to-end view of supply chain activity and are alerted to problems in real time, enabling them to better coordinate inbound and outbound distribution flows.

## WHY ALL THE INTEREST?

The control tower makes for a dramatic image, and no doubt this is one reason control towers have enjoyed so much attention. More than its inherent attractiveness though, the control tower concept has gained traction because today’s supply chains are chaotic and risky environments, and companies are searching for technology solutions that can help them navigate through the uncertainty. A recent Deloitte survey of 600 executives at manufacturing and retail companies found that 63% were highly concerned about risks within the extended supply chain comprising vendors and customers, ranking it among their top-two concerns. The executives surveyed also cited “lack of acceptable cross-functional collaboration” as the number one obstacle to managing risk effectively.<sup>3</sup> What are the causes of this risk and uncertainty? Broadly speaking, we can point to a single culprit—complexity.

Simply put, the complexity of today’s supply chains is overwhelming our ability to manage them. Conventionally architected technology systems and human planners are struggling to stay afloat against a rising tide filled with big data, asynchronous systems, the high expectations

1 Google search “Supply Chain Control Tower”, accessed 4/18/13.  
2 Capgemini Consulting, “Global Supply Chain Control Towers”, available at: <http://www.capgemini.com/resources/global-supply-chain-control-towers>

3 Deloitte Consulting, “The Ripple Effect”, 2013, available at: [http://www.deloitte.com/view/en\\_US/us/Services/consulting/Strategy-Operations/09e4439a0e17c310VgnVCM1000003256f70aRCRD.htm](http://www.deloitte.com/view/en_US/us/Services/consulting/Strategy-Operations/09e4439a0e17c310VgnVCM1000003256f70aRCRD.htm)

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of consumers, and an ever-increasing number of trading partners. It should come as no surprise then that a recent Gartner survey found that 85% of respondents felt that supply chain complexity is a significant and growing challenge for their operations.<sup>4</sup>

## **THE OUTSOURCED SUPPLY CHAIN— NEW CHALLENGES**

It wasn't always this complicated. Decades ago, when vertical integration was the prevailing strategy, a single company would often manage the majority of supply chain functions in-house. A vertically integrated company would have visibility and control over its raw materials, manufacturing, transportation and logistics, and sometimes even retail. This approach ensured a stable supply of inputs and a higher level of visibility of the company's ability to produce and deliver final products. It also reduced chain-wide complexity—making the coordination of product flow to consumers much smoother.

Yet fast-forward to today and we find an entirely different landscape that has been transformed by globalization. Companies have abandoned vertical integration, instead outsourcing a large majority of the supply chain functions that they once managed in-house. There are many good reasons for the outsourced supply chain: over time, vertical integration became less effective at reducing supply variability and improving the quality of the final product; vertical

integration could also distract a company from its core competencies; and finally, it was criticized for putting too much risk on a single company. Simply put, the emergence of today's highly dynamic and global marketplace forced vertically integrated companies to begin outsourcing. Yet while outsourcing has obviously proved to be the right strategy, it has also brought with it unprecedented challenges.

Now, nearly every function in a supply chain can be outsourced (e.g. sales, contract manufacturers, co-manufacturers, logistics, etc). The result is that supply chains have become complex global networks with 1000's of trading partners, each focusing on a narrow slice of the fulfillment or manufacturing process. On the whole, this increased specialization is a good thing, and has resulted in lower prices for the end consumer. The problem however, is that while outsourcing has ushered in a new supply chain business model, enterprise technology and management strategies have failed keep up.

When traditional enterprise management systems like ERP, MRP, and DRP were invented, most companies were vertically integrated. Quite logically then, they were designed for the functional management of a single enterprise. However today, because of outsourcing, most of what determines a company's profitability lies outside of its four walls, an area that conventional planning and ERP systems are simply ill-equipped to manage. The result is that each trading partner is forced to use its own planning system and create its own demand forecast. Critical information that would be of use to the entire supply chain, such as upstream consumer demand, is siloed and effectively invisible.

<sup>4</sup> "Gartner Predicts 2013: Collaboration, Cloud and Evolving Strategies will drive Global Logistics", available at (gated): [www.gartner.com](http://www.gartner.com)

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The lack of supply chain visibility that companies experience today is staggering—they are essentially flying blind. Although analysts and vendors have been pushing the need for “end-to-end” supply chain visibility for years, Gartner recently revealed that virtually no companies are able to or will be able to provide end-to-end supply chain visibility in the near future; in fact, by 2016, they estimate less than 20% of companies will be able to provide end-to-end supply chain visibility.<sup>5</sup>

Within the enterprise, the environment is equally grim. The average global manufacturer has roughly 150 systems in place, resulting in the same systems integration, coordination, and visibility problems that companies are facing outside their four walls . Perhaps the largest source of concern is the great divide between the planning and operations sides of their business. In an analysis of global supply chain practices, Accenture found that:

Detailed knowledge of operations is maintained locally, while officials high up...are unaware of the variability of day-to-day operations. This makes it difficult to identify the root causes of problems, particularly early enough in the process to make effective changes. <sup>6</sup>

Compounding the problem is the fact that locally stored Excel spreadsheets and paper and pencil still drive most processes,

while communication between teams still largely takes place with inefficient and error-prone telephone calls and emails.

Thus, whether you are looking within the enterprise or across the trading partner ecosystem, supply chains are remarkably dysfunctional environments. Despite massive investments in technology, nearly every measure of supply chain health—such as service levels, out-of-stocks, fill-rates, and inventory levels—remains essentially unchanged from ten years ago. No one disputes that something must be done to combat the complexity and chaos. The question is, are control towers the right solution?

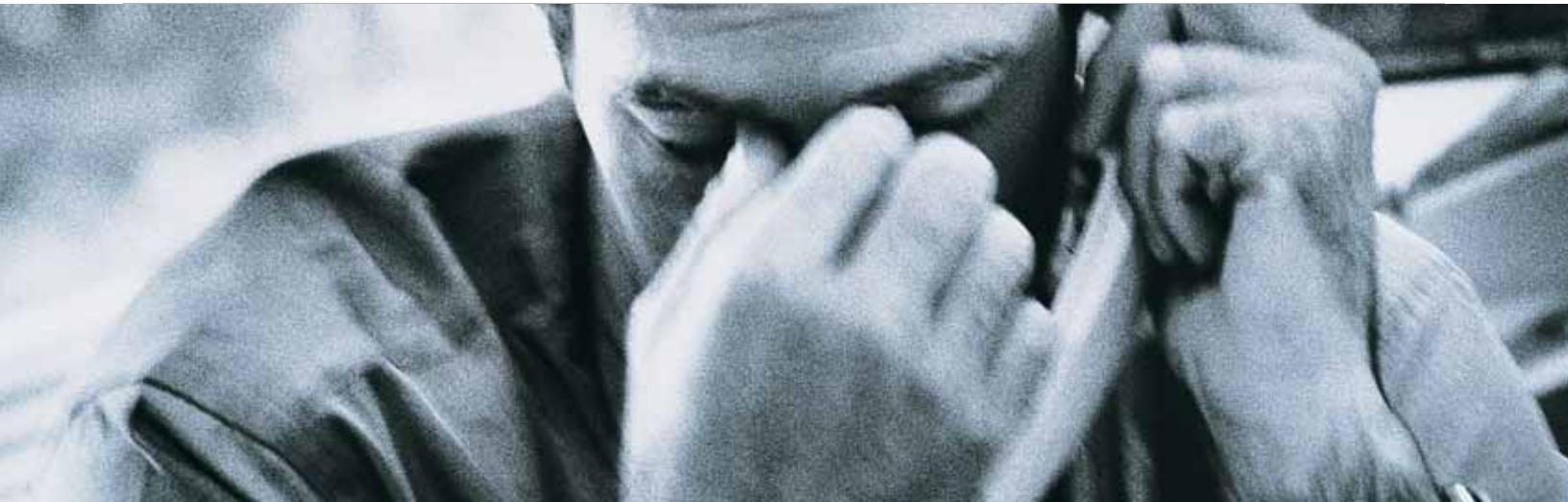
## THE FIVE FATAL FLAWS OF SUPPLY CHAIN CONTROL TOWERS

Control tower systems are marketed as the leading edge solution for today’s outsourced supply chain. Vendors claim that their control tower will provide end-to-end visibility, remove system latency, monitor conditions outside of the enterprise, record every transaction and event, and rapidly alert planners of disruptions and deviations from demand and operations plans. But can they really deliver? It pays to be skeptical. Below we identify the five fatal flaws that most control tower technology solutions have in common.

**1. Limited visibility:** Control tower vendors may claim to offer end-to-end visibility, but the truth is that they usually offer a simplistic form of visibility into one part of the supply chain at the expense of another. At best (and this is rare), this means visibility across the internal departments of an enterprise coupled with national sales and purchasing visibility into its

<sup>5</sup> Gartner “Predicts 2013: Collaboration, Cloud and Evolving Strategies will Drive Global Logistics”, available at (gated): [www.gartner.com](http://www.gartner.com)

<sup>6</sup> “Federal Solutions: Build a Control Tower to Handle Your Supply Chain Traffic”, Accenture, 2012



immediate trading partners. Often, these solutions ignore the retail store or logistics—meaning the enterprise has no idea what the consumer is actually buying or where its product is at a given time. The inability to integrate with *any* part of your supply network is a major flaw. Critical information that affects your profitability may reside with your logistics providers or in retail stores, and your decision-making will suffer without this information. True end-to-end visibility means just that—every node from retailers to raw material and parts suppliers.

**2. Mere decision support and alerts:** Vendors claim that control towers will provide a system that monitors conditions outside of the enterprise and alert supply chain planners to potential disruptions in real time. In reality, what this means is aggregate reporting of stale information with exception alerts. The latency between detecting a discrepancy and translating its effect on the strategic, operating, and execution plans, and then finding the root cause and taking corrective action, can vary from one week to one month. Furthermore, even these sluggish results require a highly manual process where human planners are brought in to determine the optimal response.

**3. Too planning centric—no execution:** Almost every company today has a separate system for planning, execution, and business intelligence (reporting and alerts). Multiple and asynchronous systems require large numbers of people to sift through vast amounts of data, detect business problems, and take corrective actions. The control tower approach does nothing to change this state of affairs. At best, a control tower can enable you to manually adjust your plans more quickly, but even in the highly unlikely event that it re-plans

for you, your new plan is of little benefit until you can execute it. And how long will that take? As was just noted, the best case scenario is likely weeks. Ideally, control towers could seamlessly adjust the plan and execute it within the same system, but execution capabilities are something no control tower vendor even claims to offer.

**4. Not scalable:** Control tower solutions will struggle to scale across your entire business, especially if your goal is to manage at the SKU/item level of detail. One reason is the heavy emphasis that control towers place on human planners. People, no matter how intelligent, simply cannot keep up with the millions of data points that today's global supply chains generate. The lack of scalability also becomes a problem when trying to build connections with trading partners, which leads us to fifth and final flaw.

**5. Trading partner connections aren't reusable:** At best, the most advanced versions of control towers are using the "hub-and-spoke" model to connect trading partners to each other. This works by connecting a single company (the "hub") to surrounding companies ("spokes"). The major drawback with this approach is these connections aren't reusable. Thus, if a spoke wants to connect to other spokes, a whole new set of connections must be formed, which is unlikely given the amount of effort it takes to form a connection in the first place (integrating systems, establishing new business processes, etc). Also of concern are the types of connections themselves; control towers use different technologies for each connection, and sometimes even different (ad hoc) applications. The result is usually an unorganized mix of EDI and manual email/FTP of spreadsheets. Thus, not only are the

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connections not reusable, but so are the unique applications built on top of those connections.

## SO WHAT’S THE ALTERNATIVE?

Although control towers fail to meet close scrutiny, an alternative technology exists that has been proven to provide everything that control towers promise—end-to-end visibility, reduced system latency, supply chain monitoring and alerts—and goes even further by offering additional functionality that altogether dramatically reduces the complexity today’s enterprises face. The alternative is a multi-enterprise “many-to-many” network platform; it the only technology designed to connect an unlimited number of trading partners in the same, cloud-based network while enabling all parties to coordinate around the same end-consumer demand signal. It’s an elegant solution to a complex problem, and it’s called the Real Time Value Network™. What follows is a brief overview of how it compares to control towers.

**1. True Multi-Enterprise Platform:** Control tower solutions, in order to provide the promised multi-enterprise functionality, are usually forced to crudely stitch together multiple applications behind the scenes. By contrast, the Real Time Value Network is a fully self-contained solution. It was designed from the ground up to enable *all* trading partners—suppliers, retailers, and logistics providers to coordinate in real time around the same forecast based on actual consumer demand.

**2. Unique “Many-to-Many” Network Model:** Unlike the hub-and-spoke network model, a “many-to-many” network model means a company need connect only once to the Real Time Value Network and it forever has the ability to transact, coordinate, and plan with any other company already on the network. The question then becomes whether any two given companies want to transact or coordinate, and if so, what information they decide to share and what integrated workflows they want to share. This is very similar to how today’s social networks are constructed. When someone joins Linked In; they have hundreds of millions potential “connections”, but first both parties must agree to connect and decide what information to share. Companies within a real-world supply chain are constantly forming and breaking relationships, but because control towers rely on the inefficient hub and spoke model for their connections, they simply cannot keep up.

**3. Integrated Business Planning & Optimized Execution:** Planning is no doubt important, but your plan is only as good as your ability to execute it. Only the Real Time Value Network has a patented approach that combines integrated business planning with real time optimized execution within the same system. This approach collapses the historical divide between the planning and execution sides of a business, effectively eliminating the latency between spotting the issue and reacting to it.

**4. Supply Monitoring:** Today’s supply chains are generating vast amounts of “Big Data” that greatly overwhelm traditional technology systems, including control towers. The Real Time Value Network’s unique underlying architecture captures



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and streams Big Data in real time, and more importantly, automatically translates this “noise” into analytics, financial statuses, service levels, and physical network monitoring, giving companies the ability to rapidly sense and respond to issues. For example, a service level problem is immediately translated into the financial impact to a company or its customers.

**5. End-to-End Visibility in Real Time:** Unlike control towers, One Network’s Real Time Value Network offers true end-to-end visibility from a high level monitoring layer to detailed issues or transactions; it can manage and optimize every transaction or event from the consumer to parts supplier. This means all planning and execution processes are covered, whether in your demand, supply, or logistics. All in a single cloud-based system. Furthermore, the lack of batch planning enables the Network to remove information latency from every aspect of the supply chain—inside the factory, in the transportation network, and in the planning and decision-making process. This allows users to be alerted to issues as they happen, and even more importantly, see the consequences. For example, a projected out-of-stock immediately triggers the system to replan and solve the consumer service level problem automatically.

**6. Decision-Making Technology:** The Real Time Value Network is the world’s first and only real time decision-making supply chain suite. For example, when demand suddenly increases or decreases, the Network recalculates the requirements for every trading partner *and* gives them the ability to immediately, automatically, and collectively execute based on those requirements. Or, when a supply

shortage occurs, trading partners gain instant visibility of the impact and can enable the system to make intelligent allocation decisions across the supply network all the way down to the store/SKU. Human planners could never manage to keep up with all this data (especially if they’re managing at the store/SKU or consumer level), and that’s why the Network only engages human intelligence with the difficult exceptions, enabling your people to be far more productive.

**7. Scalable:** The Real Time Value Network’s unique horizontal grid architecture makes it scalable across technology and business processes. It manages the millions of daily transactions and data points that today’s large value chains generate. It also fully leverages the cloud to connect an unlimited number of users, trading partners, and systems.

## CONCLUSION

In a crowded market filled with marketing smoke screens, buzzwords, and “me too” claims, it is critical that companies carefully evaluate the underlying technology of their potential technology vendor. This paper has demonstrated that control tower technology solutions are likely to contain major flaws that may lead to disappointing results. A proven alternative technology is a multi-enterprise “many-to-many” network platform delivered via One Network’s Real Time Value Network. It is the first only decision-making supply chain suite. Your world is filled with risk and complexity. What’s your strategy?

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